

## MOUNT WILSON AND ITS FERNS.

BY P. N. TREBECK.

The south-west portion of Mt. Wilson, which is now occupied, is situated N. and N.E. of the Mount Wilson Station, on the Great Western Railway, about five miles in a direct line, but in consequence of a number of deep ravines and gullies intervening the road makes a circuit of 10 miles along the top of the range dividing the waters of the Wollangambe and Bowen Creeks, both tributaries of the Colo River. The road is an excellent one and well kept, and for the first five miles goes along the old stock-route known as Bell's line. It then turns off to the north and reaches the foot of Mt. Wilson 390 feet below the summit. From the railway station to this point, the road traverses the usual Hawkesbury Sandstone of the Blue Mountains, ferruginous in some spots, and maintains an average elevation of 3,000 feet, with some pretty scenery to the east in the direction of Mounts King George, Tomah, and Hay, and the Valley of the Colo, and on the west towards Mt. Clarence and the Valley of the Wollangambe.

At the foot of Mt. Wilson, the basaltic rock and rich brown and chocolate soil are met with, and the sudden transformation from the ordinary dull brown stunted gums, to the most luxuriant growth of the sassafras, mimosas, acacias, tree- and other ferns, and numerous other dark and bright green handsome shrubs, is very charming and grateful to the traveller after the long railway journey and the drive over the sterile mountain country.

Mt. Wilson is ascended by a well made zig-zag road cut out of the rich basaltic hill-side, shaded by overhanging trees, shrubs, and tree-ferns, which form a beautiful avenue nearly to the top of the mount. About three quarters of the way up the zig-zag is a basalt quarry where the pentagonal and hexagonal columnar formation is clearly visible. The road to the seven residences on the mount winds along nearly on the crown of the hill, diverging

sometimes a little to the E. and then to the W., at an average elevation of about 3,400 feet. Along some portions of the road the residents have planted long avenues of chestnuts, walnuts, elms, and other English forest trees, all of which are growing in the greatest luxuriance. The various homesteads are surrounded by grounds, orchards, and gardens, where the English fruit trees, shrubs, plants, and flowers grow in great exuberance.

Mt. Wilson extends from the point of ascent about six miles in a general north-easterly direction with a few slight undulating depressions. The highest portions are all basaltic, and covered with the richest soil, growing huge eucalypti, sassafras, shrubs, *Dicksonia antarctica* and other ferns in great profusion, but this rich basaltic soil seldom extends lower than 300 to 400 feet below the crowns of the hills, except in a few gullies, where the detritus has reached a little lower. The ordinary Hawkesbury sandstone of the Blue Mountains is then met with, and no other kind of volcanic or sedimentary rock was noticed. The creeks or gullies nearest to the present residences are called the Waterfall, Cox's, Cascade, and Crab Creeks. At the heads of most of them there is a spring issuing frequently near the junction of the basaltic and sandstone rocks. One well, sunk 22 feet in rich basaltic soil, gives an excellent supply of good water.

The English grasses thrive well; the Cocksfoot appears to be the most in favour and produces a heavy crop of succulent feed. Red and white clover, and perennial rye-grass also grow well.

There are no kangaroos, but an occasional wallaby is seen where any patches of grass occur. Dingoes are sometimes heard at night, but do little mischief.

Mr. J. D. Cox informs me that he has obtained about 60 species of birds in the neighbourhood. These include hawks, owls, one goat-sucker, kingfishers, diamond-birds, magpies, shrikes, flycatchers, robins, the lyre-bird, several species of *Sericornis* and of *Acanthiza*, thrushes, the satin-bird, honey-eaters tree-creepers, parrots, pigeons, one quail, and the curlew.

To the real lover of ferns, Mt. Wilson is as charming a spot as can be found anywhere in our Island. The rich volcanic soil on the crowns and on the sides and bottoms of the creeks and gullies,

shaded by the sassafras, mimosa, and other umbrageous trees and shrubs, coupled with the dampness from innumerable small springs, appears exactly suitable to the highest development of the fern species.

The following are those I noted during a short stay. I did not contemplate giving this paper, or would have observed the ferns more closely. There are many more varieties of the genera I have enumerated. I can with much confidence recommend Mt. Wilson as a grand field for the naturalist who takes a special delight in ferns and allied plants. "The Happy Valley" on the Waterfall Creek, in addition to its being one of the most beautiful places in the mountains, contains the greatest variety of ferns I have ever seen in one place, all growing in the greatest luxuriance, many from the strata of the perpendicular sandstone cliffs, which are 120 to 150 feet high. This narrow valley is 2,750 feet above the sea.

#### Genus, ALSOPHILA.

*Alsophila australis.* Growing on the sloping sides of the hills and near the beds of the creeks; trunk 12 to 20 feet high, 12 to 24 inches in diameter, and fronds 10 to 15 feet 6 inches long.

*Alsophila Leichardtiana.* A slender and elegant tree-fern, found only in a few places in this colony, but more plentiful in Queensland. Height 8 to 15 feet, fronds of a dark green, 6 to 8 feet long, spinulose at their bases, with thorns  $\frac{1}{4}$  inch long.

#### Genus, DICKSONIA.

*Dicksonia antarctica.* Growing most luxuriantly on the very summits of the hills and down some of the slopes. In some places the trunks, which are covered with rootlets giving a woolly appearance, are 35 to 40 feet high, 18 to 28 inches in diameter, with fronds 6 to 10 feet long.

*Dicksonia davallioides.* A beautiful hardy variety with creeping rhizome and brown glossy stipes, frond somewhat membranous. Height 2 feet to 2 feet 6 inches. It is easy of cultivation.

#### Genus, BLECHNUM.

*Blechnum cartilagineum.* Fronds 2 to 2 feet 6 inches high, with rough hairy stipites.

*Blechnum levigatum.* Horizontal rhizome and smooth stipites.

Genus, *TODEA*.

*Todea barbara* or *australis*. Growing at the sides, and in the running waters, of the creeks, some of the trunks 6 feet high, fronds, many of which are nearly covered on the lower side with orange-colored sori, 8 to 10 feet long.

*Todea Fraseri*. One of our handsomest ferns, seen to great advantage at the Happy Valley, Waterfall Creek, where almost every stratum of the sandstone rock, up to 60 or 70 feet above the bottom of the creek, is covered with long rows, growing in the greatest luxuriance, with fronds upwards of six feet long. The rhizomes are frequently 2 to 3 feet high. Plentiful also in the Cascade Creek.

*Todea hymenophylloides*, a very beautiful membranous fern 2 to 2 feet 6 inches high, but not so plentiful as at Katoomba.

Genus, *LOMARIA*.

*Lomaria discolor*, and *Lomaria falcata*. Both very plentiful, the latter forming an elegant plant.

*Lomaria* (new), which I take the liberty of calling *umbellata*. It is a showy variety with creeping rhizome, found only in one spot in Cox's Creek, 2 feet 6 inches to 3 feet 6 inches high.

*Lomaria elongata*. Growing in great profusion in many places.

*Lomaria filiformis*. In the Happy Valley and Cascade Creek, where this fern and certain species of *Hymenophyllum* almost cover the trunks of some of the trees.

Genus, *GLEICHENIA*.

*Gleichenia dicarpa*, *Gleichenia flabellata*. These are not so fine nor quite so plentiful as they are nearer the coast.

Genus, *POLYPODIUM*.

*Polypodium australe*, and *Polypodium Billardieri*. Both growing very luxuriantly.

*Polypodium attenuatum*. Found in the basaltic soil on the slopes.

## Genus, ASPLENIUM.

*Asplenium bulbiferum*. Growing near the head of the Waterfall Creek in damp places, near the junction of the basaltic and sandstone rocks.

*Asplenium flaccidum*. This variety is rare. It grows on rocks and occasionally on roots of trees.

*Asplenium flabellifolium (repens)*. Very plentiful ; would make an excellent fern for hanging baskets.

*Asplenium flabellifolium* var. *cristatum*. This is a pretty sport of the former, and only found in one spot in basaltic soil.

## Genus, ADIANTUM.

*Adiantum formosum* sometimes called *giganteum*. In the Waterfall and Cascade Creeks.

*Adiantum Ethiopicum*. Only a small patch towards Crab Creek.

*Adiantum affine*. Found only in one place on Mr. Gregson's land.

This genus appears very scarce at Mt. Wilson.

## Genus, DOODIA.

*Doodia aspera*. Not plentiful.

## Genus, ASPIDIUM.

*Aspidium aculeatum*, and *Aspidium falcatum*. Both growing luxuriantly on the crowns of the hills and down the slopes. Both have proliferous buds near the end of the rachis, which produce leaves and roots before falling off.

*Aspidium decompositum*. An elegant fern, with fronds beautifully divided.

*Aspidium tenerum*. A delicate graceful fern with somewhat membranous fronds.

## Genus, DAVALLIA.

*Davallia dubia* or *australis*. Though one of the commonest is an elegant fern, and grows plentifully both in the basaltic and sandstone soils.

## Genus, PTERIS.

*Pteris aquilina.* The common Bracken.

*Pteris tremula.* Growing in great perfection at Happy Valley, 3 to 4 feet high.

*Pteris incisa.* Found on the hill sides, but is not very plentiful.

*Pellea falcata.* Growing near the summits and on the hill sides.

## Genus, ALLANTODIA.

*Allantodia tenera.* This handsome fern grows in great luxuriance at Mt. Wilson, the stipites being nearly 6 feet high, and the fronds 6 feet 6 inches long. A truly graceful and elegant fern.

## Genus, HYMENOPHYLLUM.

*Hymenophyllum tunbridgense.* A beautiful and delicate membranous fern. Very plentiful.

*Hymenophyllum flabellatum.* Grows in great abundance, frequently forming a dense matted covering on the trunks of certain tree-ferns. There are other varieties of this diminutive filmy fern in the deep gullies of Mt. Wilson. At the Cascade Creek, one kind, having with its matted roots, grown down the stream over a precipitous rock, hangs from it like a handsome festoon.